

REMARKS

Claims 1-25 are pending. Claims 1, 2, 6, 7, 11-13, 15, 16, 22, 24, and 25 were rejected. Claims 3-5, 8-10, 14, 17-21, and 23 were objected to. The Applicants gratefully acknowledge the allowability of claims 3-5, 8-10, 14, 17-21, and 23 if amended to incorporate base and intervening claim limitations. Independent claims 1, 6, 15, 22, 24, and 25 were rejected under 35 U.S.C. 102(e) as being anticipated by Dempsey (U.S. 6,169,726).

Independent claim 1 recites "wherein the plurality of monitors are operable to monitor the plurality of controllers." Independent claims 15 recites "wherein the active controller and the standby controller are monitored by a plurality of monitors." Independent claims 22, 24, and 25 recite "wherein the active and standby controllers are operable to communicate status signals through monitors associated with the active and standby controllers, the monitors being able to monitor status signals of the controller with which they are associated and status signals of the controller with which they are not associated." Independent claim 6 recites "a first logic device connected to and associated with the first controller, wherein the first logic device is suitable to receive status signals from the first controller; a second logic device connected to and associated with the second controller, wherein the second logic device is suitable to receive status signals from the second controller."

The independent claims 1, 6, 14, 22, 24, and 25 all variably recite multiple monitors, a plurality of monitors, monitors associated with active and standby controllers, and/or logic devices operable to receive status signals from controllers.

The Examiner argues that Dempsey describe multiple monitors on lines 37-46 of Column 3. The Applicants respectfully disagree. The material the Examiner cited in Dempsey describes multiple controllers, not multiple monitors. The controllers in Dempsey are used to provide switching and routing of the communications (column 1, lines 47-49). However, Dempsey does not teach or suggest multiple monitors associated with the controllers. The independent claim recite monitors associated with the controllers. For example, independent claim 1 recites "wherein the plurality of monitors are operable to monitor the plurality of controllers." Independent claims 15 recites "wherein the active controller and the standby controller are monitored by a plurality of monitors." According to various embodiments of the present invention, having multiple monitors allows individual controllers to be inserted or removed

during system operation. In one example, “both hardware and software based monitor and control systems are often used in systems in dual processing environments. In such a situation the processors are usually mounted on the same board and they are not designed to be inserted or removed during operation of the system. Thus the monitor and control system does not contemplate these situations. The systems therefore do not reflect the functionality associated with rack based computer systems where redundant controllers may be located on separate boards that are likely to be removed during the operation of the computer.” (Page 3, Lines 19-23).

In some conventional systems, a single monitor is provided to monitor a pair of controllers. However, this does not allow easy swapping of controller cards. The techniques of the present invention provide a plurality of monitors associated with a plurality of controllers. In some examples, a monitor is provided with a controller on a single card. A card can then be readily swapped out of a system and replaced.

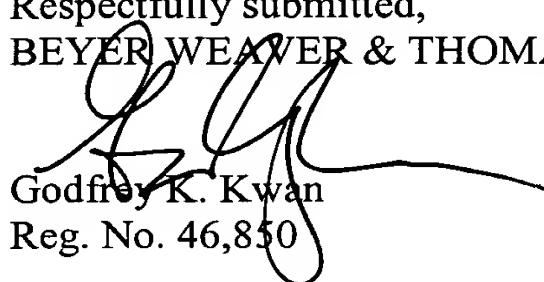
Dempsey does not include multiple monitors. Dempsey describes a time based failover process. “If it is determined that the main processor 22 of designated active controller A 20 has been running for the predetermined period of time (a YES response in step 210), the designated active controller A 20 will be switched in the following manner with the designated standby controller B 30 to prevent any potential loss of customer services. In step 220, the main processor 22 of designated active controller A 20 stops sending messages to AIU 50. After a predetermined time period has elapsed, the main processor 22 of designated active controller A 20 stops running in step 230. The time period for the delay between steps 220 and 230 may correspond to the time required for communication processor 24 to send any messages to AIU 50 in accordance with instructions from main processor 22.” (Column 5, Line 65 – Column 6, Line 8)

Dempsey describes a time based system and not a system that uses multiple monitors. Dempsey uses a single monitor AIU 50 for controllers A and B (Figure 1). A time based system is noted in the Background section (page 3, lines 6-13) of the present application. “The second general category of failure detection and switching circuits use hardware based methods where hardware based methods are those that use a control circuit to monitor status signals from the controllers. The status signals from the controllers indicate the state of the controller’s operation and determine whether a switchover of active control is required. The control circuits that

monitor the controllers often employ some form of control logic and a timer circuit to which the controllers must regularly respond to indicate that it is still active and in control.”

In light of the above remarks relating to the independent claims, the remaining dependent claims are believed allowable for at least the reasons noted above. Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
BEYER WEAVER & THOMAS, LLP


Godfrey K. Kwan
Reg. No. 46,850

P.O. Box 778
Berkeley, CA 94704-0778
(510) 843-6200